



BOX PG-PUB
Attorney D ck t No. 05725.0414-01
Applicati n No.: 09/852,624

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:)
)
Roland DE LA METTRIE et al.) Group Art Unit: 1751
)
Application No.: 09/852,624) Examiner: Koss, Ann Marie # 10
)
Filed: May 11, 2001)
)
For: OXIDIZING COMPOSITION FOR TREATING KERATIN FIBRES

BOX PG-PUB
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

REQUEST FOR CORRECTED PATENT APPLICATION PUBLICATION
UNDER 37 C.F.R. § 1.221(b)

On April 11, 2002, the Office published the above-identified application No. 09/852,624 as Publication No. US-2002/0040509-A1. The published application contains mistakes that are the fault of the Office and may be material. Attached hereto is a copy of each relevant page of the originally filed application and a marked-up copy of the corresponding page of the published application containing the mistakes.

A mistake is material when it affects the public's ability to appreciate the technical disclosure of the patent application publication or determine the scope of the provisional rights that an applicant may seek to enforce upon issuance of a patent. See C.F.R. § 1.221(b).

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The mistakes, which are indicated in red ink on the relevant pages of the marked-up copy of the published application attached hereto, are as follows:

1. In paragraph 106, in formula (VII) the published application recites $--[NR_2OR_{21}]_p--$. However, the originally filed application recites $--[NR_{20}R_{21}]_p--$. This mistake, therefore, results in the misstatement of this radical component of formula (VII). Thus, this mistake may be material as it may affect the public's ability to appreciate the technical disclosure of the patent application publication. For at least this reason, this mistake should be corrected.

2. In the fourth line of paragraph 165, the published application recites $--phase. lasting--$. However, the originally filed application recites $--phase lasting--$ (i.e. without the period). This mistake results in the grammatical separation of the length of time to be used in the standing or waiting phase. Thus, this mistake may be material as it may affect the public's ability to appreciate the technical disclosure of the patent application publication. For at least this reason, this mistake should be corrected.

3. After paragraph 192 and before the recitation of the claim 1 the published application does not recite a heading to the claims section. The application as originally filed recites the heading $--CLAIMS--$. This mistake results in an ambiguous commencement of the most important part of the patent, the claims. Thus, this mistake may be material as it may affect the public's ability to appreciate the technical disclosure of the patent application publication.


For at least this reason, this mistake should be corrected.

For at least the foregoing reasons, Applicants request that the Office correct the mistakes identified above for which the Office is at fault in the published application, and forward to Applicants a copy of the corrected published application or at least a notification of the occurrence or predicted occurrence of the corrected publication once it has been corrected.

Applicants believe that no Petition or fee is due in connection with this Request. However, if any Petition or fee is due, please grant the Petition and charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

By: 
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Date: June 11, 2002

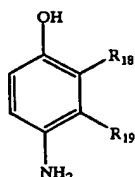
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[0093] Among the double bases of formula (V) above, mention may be made more particularly of N,N'-bis(β -hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-diaminopropanol, N,N'-bis(β -hydroxyethyl)-N,N'-bis(4'-amino phenyl) ethylenediamine, N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(β -hydroxyethyl)-N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(4-methylaminophenyl)tetramethylenediamine, N,N'-bis(ethyl)-N,N'-bis(4'-amino-3'-methylphenyl)ethylenediamine and 1,8-bis(2,5-diaminophenoxy)-3,5-dioxaoctane, and the addition salts thereof with an acid.

[0094] Among these double bases of formula (V), N,N'-bis(β -hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-diaminopropanol and 1,8-bis(2,5-diaminophenoxy)-3,5-dioxaoctane, or one of the addition salts thereof with an acid, are particularly preferred.

[0095] Among the para-aminophenols which can be used as oxidation bases in the dye compositions in accordance with the invention, mention may be made in particular of the compounds corresponding to formula (VI) below, and the addition salts thereof with an acid:



(VI)

[0096] in which:

[0097] R_{18} represents a hydrogen or halogen atom or a C_1 - C_4 alkyl, C_1 - C_4 monohydroxyalkyl, (C_1 - C_4)alkoxy(C_1 - C_4)alkyl, C_1 - C_4 aminoalkyl or hydroxy(C_1 - C_4)alkylamino-(C_1 - C_4)alkyl radical,

[0098] R_{19} represents a hydrogen or halogen atom or a C_1 - C_4 alkyl, C_1 - C_4 monohydroxyalkyl, C_2 - C_4 polyhydroxyalkyl, C_1 - C_4 aminoalkyl, C_1 - C_4 cyanoalkyl or (C_1 - C_4) alkoxy(C_1 - C_4)alkyl radical,

[0099] it being understood that at least one of the radicals R_{18} or R_{19} represents a hydrogen atom.

[0100] Among the para-aminophenols of formula (VI) above, mention may be made more particularly of para-aminophenol, 4-amino-3-methylphenol, 4-amino-3-fluorophenol, 4-amino-3-hydroxymethylphenol, 4-amino-2-methylphenol, 4-amino-2-hydroxymethylphenol, 4-amino-2-methoxymethylphenol, 4-amino-2-aminomethylphenol, 4-amino-2-(β -hydroxyethylaminomethyl)phenol and 4-amino-2-fluorophenol, and the addition salts thereof with an acid.

[0101] Among the ortho-aminophenols which can be used as oxidation bases in the dye compositions in accordance with the invention, mention may be made more particularly of 2-aminophenol, 2-amino-5-methylphenol, 2-amino-6-methylphenol and 5-acetamido-2-aminophenol, and the addition salts thereof with an acid.

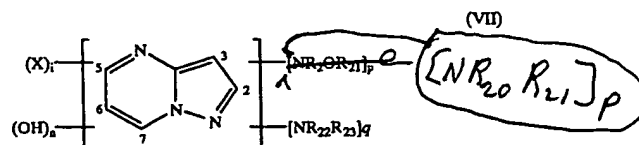
[0102] Among the heterocyclic bases which can be used as oxidation bases in the dye compositions in accordance with the invention, mention may be made more particularly of pyridine derivatives, pyrimidine derivatives, pyrazole derivatives and pyrazolopyrimidine derivatives, and the addition salts thereof with an acid.

[0103] Among the pyridine derivatives, mention may be made more particularly of the compounds described, for example, in patents GB 1,026,978 and GB 1,153,196, such as 2,5-diaminopyridine, 2-(4-methoxyphenyl)amino-3-aminopyridine, 2,3-diamino-6-methoxypyridine, 2-(β -methoxyethyl)amino-3-amino-6-methoxypyridine and 3,4-diaminopyridine, and the addition salts thereof with an acid.

[0104] Among the pyrimidine derivatives, mention may be made more particularly of the compounds described, for example, in German patent DE 2,359,399 or Japanese patent JP 88-169,571 or patent application WO 96/15765, such as 2,4,5,6-tetraaminopyrimidine, 4-hydroxy-2,5,6-triaminopyrimidine, 2-hydroxy-4,5,6-triaminopyrimidine, 2,4-dihydroxy-5,6-diaminopyrimidine and 2,5,6-triaminopyrimidine, and the addition salts thereof with an acid.

[0105] Among the pyrazole derivatives, mention may be made more particularly of the compounds described in patents DE 3,843,892, DE 4,133,957 and patent applications WO 94/08969, WO 94/08970, FR-A-2,733,749 and DE 195 43 988, such as 4,5-diamino-1-methylpyrazole, 3,4-diaminopyrazole, 4,5-diamino-1-(4'-chlorobenzyl)pyrazole, 4,5-diamino-1,3-dimethylpyrazole, 4,5-diamino-3-methyl-1-phenylpyrazole, 4,5-diamino-1-methyl-3-phenylpyrazole, 4-amino-1,3-dimethyl-5-hydrazinopyrazole, 1-benzyl-4,5-diamino-3-methylpyrazole, 4,5-diamino-3-tert-butyl-1-methylpyrazole, 4,5-diamino-1-tert-butyl-3-methylpyrazole, 4,5-diamino-1-(β -hydroxyethyl)-3-methylpyrazole, 4,5-diamino-1-ethyl-3-methylpyrazole, 4,5-diamino-1-ethyl-3-(4'-methoxyphenyl)pyrazole, 4,5-diamino-1-ethyl-3-hydroxymethylpyrazole, 4,5-diamino-3-hydroxymethyl-1-methylpyrazole, 4,5-diamino-3-hydroxymethyl-1-isopropylpyrazole, 4,5-diamino-3-methyl-1-isopropylpyrazole, 4-amino-5-(2'-aminoethyl)amino-1,3-dimethylpyrazole, 3,4,5-triaminopyrazole, 1-methyl-3,4,5-triaminopyrazole, 3,5-diamino-1-methyl-4-methylaminopyrazole and 3,5-diamino-4-(β -hydroxyethyl)amino-1-methylpyrazole, and the addition salts thereof with an acid.

[0106] Among the pyrazolopyrimidine derivatives, mention may be made more particularly of the pyrazolo[1,5-a]pyrimidines of formula (VII) below, and the addition salts thereof with an acid or with a base and the tautomeric forms thereof, when a tautomeric equilibrium exists:



[0107] in which:

[0108] R_{20} , R_{21} , R_{22} and R_{23} , which may be identical or different, denote a hydrogen atom, a C_1 - C_4 alkyl

[0165] As in the case of the application of the reducing composition, the hair onto which the oxidizing composition has been applied is then, conventionally, left for a standing or waiting phase, lasting a few minutes, generally between 3 and 30 minutes, preferably between 5 and 15 minutes.

[0166] If the hair was maintained under tension by external means, these means (rollers, curlers or the like) can be removed from the hair before or after the fixing step.

[0167] Lastly, in the final step of the process according to the invention (step (iv)), which is also optional, the hair impregnated with the oxidizing composition is rinsed thoroughly, generally with water.

[0168] Hair which is soft and easy to disentangle is finally obtained. The hair is wavy.

[0169] The oxidizing composition according to the invention can also be used in a process for bleaching keratin fibres, and in particular the hair.

[0170] The bleaching process according to the invention comprises a step of applying an oxidizing composition according to the invention to the keratin fibres in the presence or absence of an auxiliary oxidizing agent. Conventionally, a second step of the bleaching process according to the invention is a step of rinsing the keratin fibres.

[0171] The medium which is suitable for the keratin fibres (or the support) for the ready-to-use dye compositions and for the oxidizing compositions used for the permanent reshaping or bleaching of keratin fibres in accordance with the invention generally consists of water or of a mixture of water and at least one organic solvent in order to dissolve the compounds which would not be sufficiently soluble in water. By way of organic solvent, mention may be made, for example, of C₁-C₄ alkanols such as ethanol and isopropanol; glycerol; glycols and glycol ethers such as 2-butoxyethanol, propylene glycol, propylene glycol monomethyl ether, diethylene glycol monoethyl ether and monomethyl ether, and aromatic alcohols such as benzyl alcohol or phenoxyethanol, similar products and mixtures thereof.

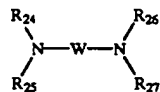
[0172] The solvents can be present in proportions preferably of between 1 and 40% by weight approximately relative to the total weight of the dye composition, and even more preferably between 5 and 30% by weight approximately.

[0173] The pH of the ready-to-use dye compositions and of the oxidizing compositions used for the permanent reshaping or bleaching of the keratin fibres in accordance with the invention is chosen such that the enzymatic activity of the 2-electron oxidoreductase is not adversely affected. It is generally between 5 and 11 approximately, and preferably between 6.5 and 10 approximately. It can be adjusted to the desired value using acidifying or basifying agents usually used for dyeing keratin fibres.

[0174] Among the acidifying agents, mention may be made, by way of example, of inorganic or organic acids such as hydrochloric acid, orthophosphoric acid, sulphuric acid, carboxylic acids such as acetic acid, tartaric acid, citric acid or lactic acid, and sulphonic acids.

[0175] Among the basifying agents, mention may be made, by way of example, of aqueous ammonia, alkaline carbonates, alkanolamines such as mono-, di- and triethanolamines, 2-methyl-2-aminopropanol and derivatives

thereof, sodium hydroxide, potassium hydroxide and the compounds of formula (VIII) below:



(VIII)

[0176] in which W is a propylene residue optionally substituted with a hydroxyl group or a C₁-C₄ alkyl radical; R₂₄, R₂₅, R₂₆ and R₂₇, which may be identical or different, represent a hydrogen atom or a C₁-C₄ alkyl or C₁-C₄ hydroxyalkyl radical.

[0177] The ready-to-use dye compositions and the oxidizing compositions for the permanent reshaping or bleaching of keratin fibres in accordance with the invention can also contain various adjuvants used conventionally in compositions for dyeing permanently reshaping or bleaching the hair, such as anionic surfactants other than those of the invention, cationic, nonionic, amphoteric or zwitterionic surfactants or mixtures thereof, anionic, cationic, nonionic, amphoteric or zwitterionic polymers or mixtures thereof, inorganic or organic thickeners, antioxidants, enzymes other than the 2-electron oxidoreductases used in accordance with the invention, such as, for example, peroxidases, penetration agents, sequestering agents, fragrances, buffers, dispersing agents, conditioners, film-forming agents, preserving agents and opacifiers.

[0178] Needless to say, a person skilled in the art will take care to select this or these optional complementary compound(s) such that the advantageous properties intrinsically associated with the compositions in accordance with the invention are not, or are not substantially, adversely affected by the addition or additions envisaged.

[0179] The ready-to-use dye compositions and the oxidizing compositions used for the permanent reshaping or bleaching of keratin fibres in accordance with the invention can be in various forms, such as in the form of liquids, creams or gels, which are optionally pressurized, or in any other form which is suitable for dyeing, permanently reshaping or bleaching keratin fibres, and in particular human hair.

[0180] In the case of a ready-to-use dye composition, the oxidation dyes(s) and the 2-electron oxidoreductase(s) are present in the said composition, which must be free of oxygen gas, so as to avoid any premature oxidation of the oxidation dye(s).

[0181] Concrete examples illustrating the invention will now be given.

[0182] In the text hereinabove and hereinbelow, except where otherwise mentioned, the percentages are expressed on a weight basis.

[0183] The examples which follow illustrate the invention without being limiting in nature.

EXAMPLES 1 TO 4

[0184] Dye Compositions

[0185] The ready-to-use dye compositions below were prepared (contents in grams):

Example 1

[0186]

Example 1:	
Uricase from <i>Arthrobacter globiformis</i> at a concentration of 20 International Units (I.U.)/mg, sold by the company Sigma	1.5 g
Uric acid	1.5 g
Ethanol	20.0 g
Hydroxyethylcellulose sold under the name Natrosol 250 HHR by the company Aqualon	1.0 g
Triethanolamine cocoylglutamate as an aqueous 30% solution, sold under the name Acylglutamate CT12 by Ajimoto	15.0 g
para-Phenylenediamine	0.324 g
Resorcinol	0.33 g
Monoethanolamine	qs pH 9.5
Demineralized water	qs 100 g

Example 2

[0187]

Example 2:	
Uricase from <i>Arthrobacter globiformis</i> at a concentration of 20 International Units (I.U.)/mg, sold by the company Sigma	1.5 g
Uric acid	1.5 g
Ethanol	20.0 g
Hydroxyethylcellulose sold under the name Natrosol 250 HHR by the company Aqualon	1.0 g
Sodium lauroyl sarcosinate as an aqueous 30% solution, sold under the name Oramix L30 by SEPPIC	15.0 g
para-Phenylenediamine	0.324 g
Resorcinol	0.33 g
Monoethanolamine	qs pH 9.5
Demineralized water	qs 100 g

Example 3

[0188]

Example 3:	
Uricase from <i>Arthrobacter globiformis</i> at a concentration of 20 International Units (I.U.)/mg, sold by the company Sigma	1.5 g
Uric acid	1.5 g
Ethanol	20.0 g
Powdered sodium cocoyl isethionate, sold under the name Jordapon CI Powder by PPG	5.0 g
Hydroxyethylcellulose sold under the name Natrosol 250 HHR by the company Aqualon	1.0 g
para-Phenylenediamine	0.324 g
Resorcinol	0.33 g
Monoethanolamine	qs pH 9.5
Demineralized water	qs 100 g

Example 4

[0189]

Example 4:	
Uricase from <i>Arthrobacter globiformis</i> at 20 International Units (I.U.)/mg, sold by the company Sigma	1.5 g
Uric acid	1.5 g
Ethanol	20.0 g
Lauryl ether carboxylic acid containing 10 EO, sold under the name Akypo RLM by KAO	5.0 g
Hydroxyethylcellulose sold under the name Natrosol 250 HHR by the company Aqualon	1.0 g
para-Phenylenediamine	0.324 g
Resorcinol	0.33 g
Monoethanolamine	qs pH 9.5
Demineralized water	qs 100 g

[0190] Each of the ready-to-use dye compositions described above was applied to locks of natural grey hair containing 90% white hairs for 30 minutes. The hair was then rinsed, washed with a standard shampoo and then dried.

[0191] Locks of hair dyed a matt dark-blonde colour were obtained with each dye composition.

Example 5

[0192] Oxidizing composition for Permanent-waving or Bleaching

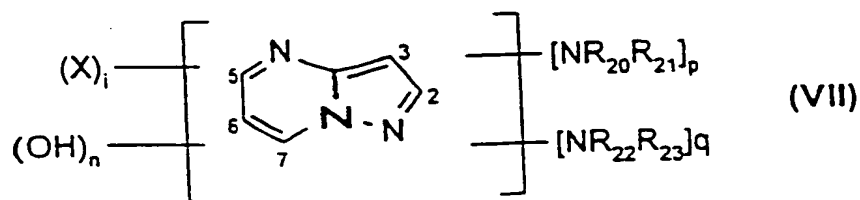
Example 5: Oxidizing composition for permanent-waving or bleaching	
Uricase from <i>Arthrobacter globiformis</i> at a concentration of 20 International Units (I.U.)/mg, sold by the company Sigma	1.8 g
Uric acid	1.65 g
Monosodium lauroyl glutamate, sold under the name Acylglutamate LS 11 by Ajimoto	5.0 g
Ethanol	20.0 g
2-Methyl-2-methyl-1-propanol	qs pH 9.5
Demineralized water	qs 100 g



CLAIMS

1. Cosmetic and/or dermatological composition intended for treating keratin fibres, in particular human keratin fibres and more particularly human hair, comprising, in a support which is suitable for keratin fibres:

- at least one enzyme of 2-electron oxidoreductase type in the presence of at least one donor for the said enzyme,
- at least one anionic surfactant chosen from the group consisting of:



in which:

- 5 - R_{20} , R_{21} , R_{22} and R_{23} , which may be identical or different, denote a hydrogen atom, a C_1 - C_4 alkyl radical, an aryl radical, a C_1 - C_4 hydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a $(C_1$ - $C_4)$ alkoxy(C_1 - C_4)alkyl radical, a C_1 - C_4 aminoalkyl radical (it being possible for the amine to be protected with an acetyl, ureido or sulphonyl radical), a $(C_1$ - $C_4)$ alkylamino(C_1 - C_4)alkyl radical, a di[(C_1 - C_4)alkyl]amino(C_1 - C_4)alkyl radical (it being possible for the dialkyl radicals to form a 5- or 6-membered carbon-based ring or heterocycle), a hydroxy(C_1 - C_4)alkyl- or di[hydroxy- $(C_1$ - $C_4)$ alkyl]amino(C_1 - C_4)alkyl radical;
- 10 - the radicals X, which may be identical or different, denote a hydrogen atom, a C_1 - C_4 alkyl radical, an aryl radical, a C_1 - C_4 hydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a C_1 - C_4 aminoalkyl radical, a $(C_1$ - $C_4)$ alkylamino(C_1 - C_4)alkyl radical, a di[(C_1 - C_4)alkyl]amino(C_1 - C_4)alkyl radical (it being possible for the dialkyls to form a 5- or 6-membered carbon-based ring or heterocycle), a hydroxy(C_1 - C_4)alkyl- or di[hydroxy(C_1 - C_4)alkyl]amino(C_1 - C_4)alkyl radical, an amino radical, a $(C_1$ - $C_4)$ alkyl- or di[(C_1 - C_4)alkyl]amino radical; a halogen atom, a carboxylic acid group or a sulphonic acid group;
- 20 - i is equal to 0, 1, 2 or 3;
- 30 - p is equal to 0 or 1;
- q is equal to 0 or 1;
- n is equal to 0 or 1;
- with the proviso that:
- the sum $p + q$ is other than 0;
- 35 - when $p + q$ is equal to 2, then n is equal to 0 and

composition.

Next, in a third step (step (iii)), the oxidizing composition of the invention is applied to the hair thus rinsed, with the aim of fixing the new
5 shape given to the hair.

As in the case of the application of the reducing composition, the hair onto which the oxidizing composition has been applied is then, conventionally, left for a standing or waiting phase lasting a few
10 minutes, generally between 3 and 30 minutes, preferably between 5 and 15 minutes.

If the hair was maintained under tension by external means, these means (rollers, curlers or the like) can be removed from the hair before or after the
15 fixing step.

Lastly, in the final step of the process according to the invention (step (iv)), which is also optional, the hair impregnated with the oxidizing composition is rinsed thoroughly, generally with water.

20 Hair which is soft and easy to disentangle is finally obtained. The hair is wavy.

The oxidizing composition according to the invention can also be used in a process for bleaching keratin fibres, and in particular the hair.

25 The bleaching process according to the invention comprises a step of applying an oxidizing composition according to the invention to the keratin fibres in the presence or absence of an auxiliary oxidizing agent. Conventionally, a second step of the
30 bleaching process according to the invention is a step of rinsing the keratin fibres.

The medium which is suitable for the keratin fibres (or the support) for the ready-to-use dye compositions and for the oxidizing compositions used
35 for the permanent reshaping or bleaching of keratin fibres in accordance with the invention generally consists of water or of a mixture of water and at least one organic solvent in order to dissolve the compounds which would not be sufficiently soluble in water. By

CLAIMS

1. Cosmetic and/or dermatological composition intended for treating keratin fibres, in particular human keratin fibres and more particularly human hair, comprising, in a support which is suitable for keratin fibres:
 - (a) at least one enzyme of 2-electron oxidoreductase type in the presence of at least one donor for the said enzyme,
 - (b) at least one anionic surfactant chosen from the group consisting of:
 - (i) acylisethionates;
 - (ii) acyltaurates;
 - (iii) acylsarcosinates;
 - (iv) acylglutamates;
 - (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
 - (vi) fatty glucamide sulphates;
 - (vii) alkylgalactoside uronates;
 - (viii) anionic derivatives of alkylpolyglucoside;
 - (ix) mixtures thereof.
2. Composition according to Claim 1, characterized in that the 2-electron oxidoreductase is chosen from uricases of animal, microbiological or biotechnological origin.
3. Composition according to Claim 1 or 2, characterized in that the 2-electron oxidoreductase(s) represent(s) from 0.01 to 20% by weight relative to the total weight of the composition.
4. Composition according to Claim 3, characterized in that the 2-electron oxidoreductase(s) represent(s) from 0.1 to 5% by weight relative to the total weight of the composition.
5. Composition according to Claim 2, characterized in that the donor (or substrate) for the said 2-electron oxidoreductase is chosen from uric acid and its salts.
6. Composition according to any one of the